

## Water Plan comments - Natural Desalination for new rivers of fresh water.

Joseph\_Rizzi [Joseph\_Rizzi@sbcglobal.net]

**Sent:** Thursday, December 05, 2013 6:11 AM

**To:** DWR CWP Comments

**Attachments:** End Droughts with Natural~1.pptx (154 KB)

Chapter 10. Desalination does not even mention Natural Desalination as a new form of desalination that uses only natures power and RO to desalinate rivers of water with Zero brine, because only the water is taken miles off shore at or near the ocean floor leaving the salt in the ocean. Initial costs are high (like a dam) but the ongoing costs are almost \$0.

Not Desalination – **Natural Desalination** ← eliminating all issues with traditional Desalination.

Attached is my presentation on utilizing “Natural Desalination” to solve California and much of our nation’s Water issues. I sent the process in to [patented the process and let it go, so that no one would profit from it](#). My gift to California and the world.

[Get out the news about](#) this new type of Desalination that uses **ZERO** man made energy to desalinate new **RIVERS** of water.

This would end the water issues like in California:

- Southern California would have all the water it could ever use or need..
- Water for the Farmers (central valley and southern) giving us more crops.
- Water for other states too; straight from the sea all year round.
- Droughts, and water quality, sea level rising and many other water issues can be decreased or eliminated.

New rivers of Naturally Desalinated water is (not like current desalination processes) expandable to meet the needs of nations without harming the environment.

The added drought proof water from a consistently clean source.

Natural Desalination occurs at about ½ mile under the ocean with current Reverse Osmosis’ membranes and can use gravity conveyance to move it to shore all while using ZERO energy (Nature’s forces only).

Joseph Rizzi -- Cel: 707-208-4508 -- Email: [Joseph\\_Rizzi@sbcglobal.net](mailto:Joseph_Rizzi@sbcglobal.net)

# Ocean Floor Desalination

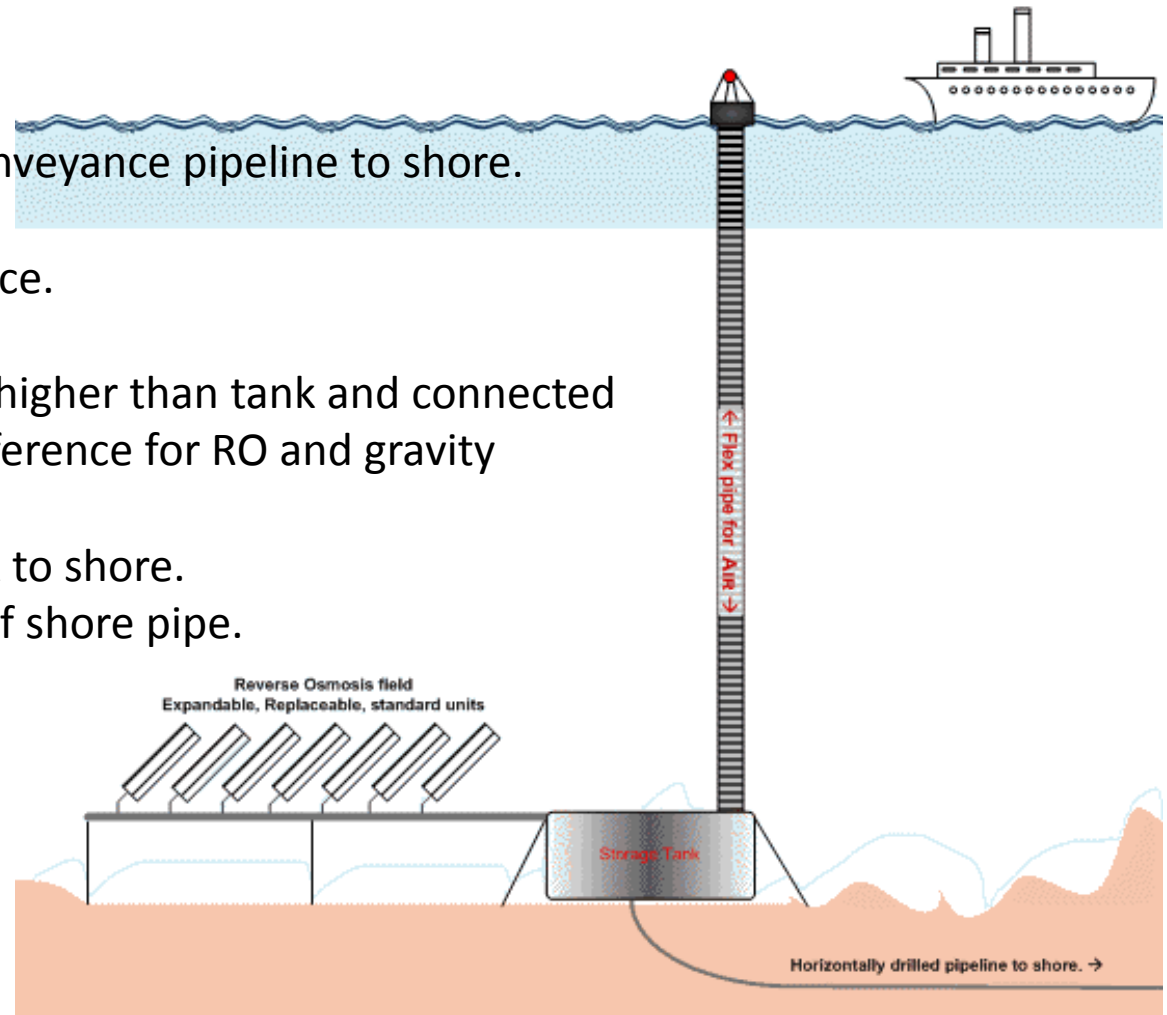
**Zero** energy for desalination and conveyance to shore

*by Joseph Rizzi*

- Reliable supply – no droughts
- Low cost \$\$\$
- Environmentally friendly
- Extract and re-pressurize for state.
- Easily expandable and repeatable.

# Ocean Floor one atmosphere structure for natural desalination

- Horizontally drilled gravity conveyance pipeline to shore.
- Pipeline connected to tank.
- Tank has flexible pipe to surface.
- Tank is at one atmosphere.
- Reverse Osmosis (RO) field is higher than tank and connected to tank to create pressure difference for RO and gravity conveyance into tank.
- Gravity conveyance from tank to shore.
- RO field expandable to limit of shore pipe.
- RO units standard.



# **Reliable Supply – no droughts**

- Located miles from shore makes the water supply less polluted by man kind.
- Constant supply year round.
- Transported to shore and/or inland via FREE gravity conveyance via horizontal well bore(s). Wells connected for long distances.
- Terrorist resistant by being under.
- Unlimited drinking water can be supplied.

# Low cost \$\$\$

- Ocean floor site would have less issues than site on land and more expansion opportunities.
- Standard design brings down costs.
- Totally automated, few moving parts (valves).
- Maintenance (of filters) weekly or monthly.
- Remote monitoring.
- Automated fault (high volume) shut off valves.
- New stream source of endless desalted water.

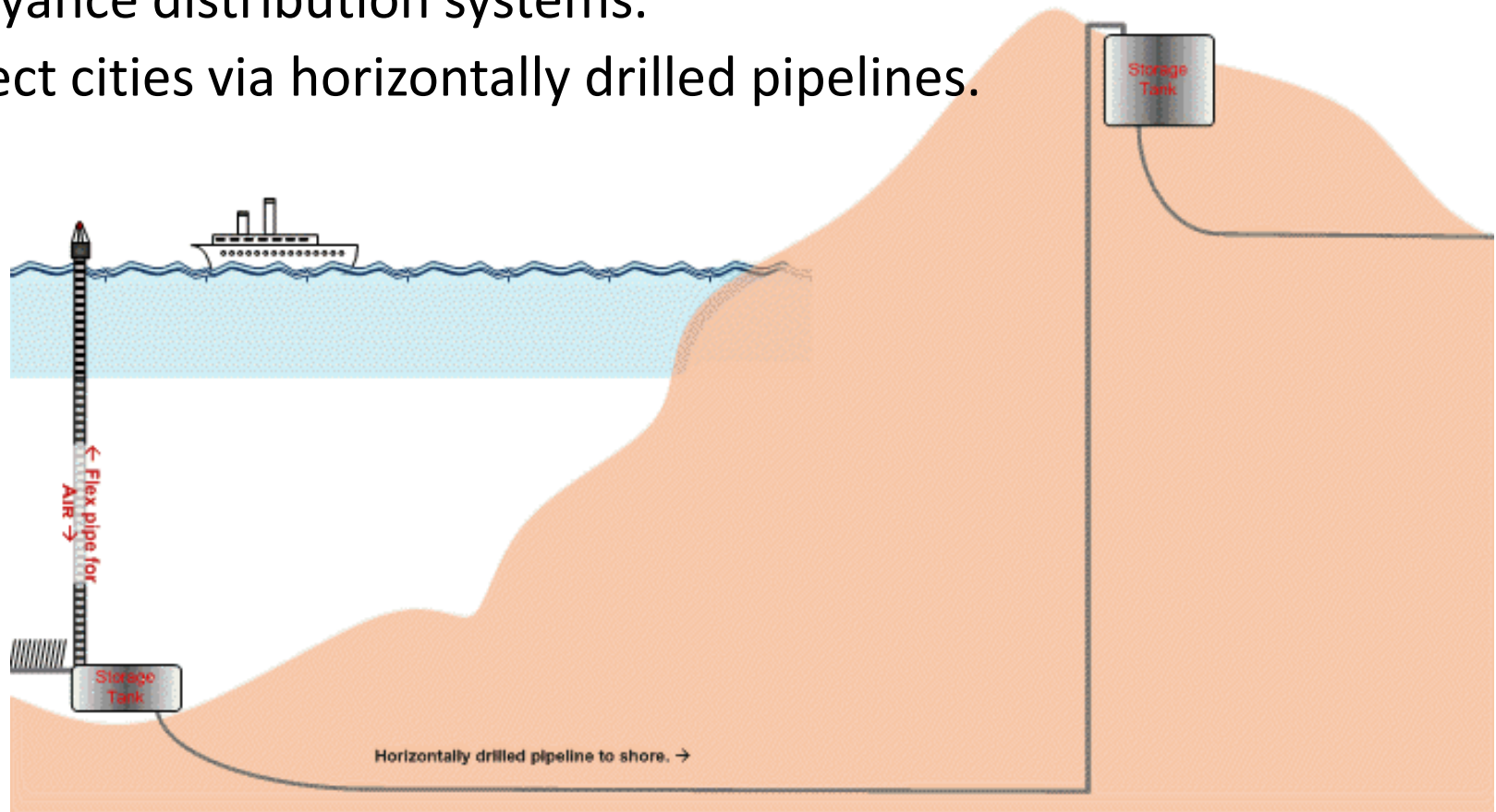
# Environmentally Friendly

- Construction offshore, so site is easy to find and procure.
- No Visual Blight.
- Using horizontal drilling eliminates or reduces environmental issues verses trenches.
- No concentrated salt (brine) issues, since only water is extracted from sea water.
- Farming could increase with added endless water supply, which in turn would reduce green house gasses.
- New supply means healthier Sacramento delta.
- Fish and other ecosystems improve due to less diversions.
- Public health improves with consistently better water.



# Extract and re-pressurize for state.

- Send salt free water to shore. Lifted and re-pressurized for distribution to city water treatment facilities and/or other conveyance distribution systems.
- Connect cities via horizontally drilled pipelines.



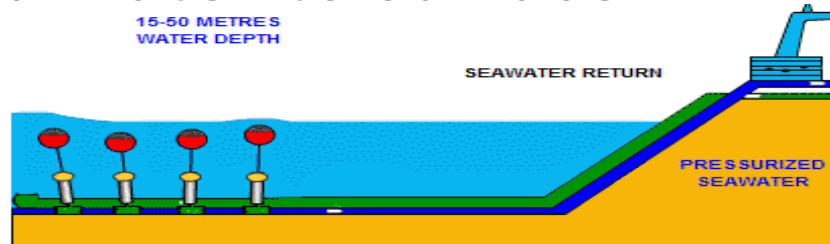
# **Easily expandable and repeatable.**

- Standard Reverse Osmosis (RO) units.
- Connect as many RO units for volume desired.
- Zero energy costs.
- Ocean is constant & quality consistent.
- Horizontal drilling has been around & accurate.
- Automatic valves can insure quality by shutting off flow if excess water flow in pipes (by leaks).
- Flexible air pipe to surface, that helps create pressure differences, should not be a shipping problem since it would move aside if hit.



# Options??

- Ocean power by [CETO Wave Power](#) to pump desalted water to surface?



- Other Wave, Wind, Solar and Tidal power are also readily available to make conveyance from sea shore to city water processing plants or to other conveyance like delta aqueduct totally green and renewable.